

plant in addition to the frost work. Although it is, according to this representation, a much less definite and less beautiful object than our dittany "frost flowers," there can be no doubt that the principle on which it was formed is the same. The author's description of it as "fashioned into all sorts of whimsical feathery curls and flanges and ridges" indicates at once the inadequacy of his figure to do it justice and the close analogy between it and the "frost flower" of *Cunila*.

We shall probably soon hear of other plants that have a similar habit.

U. S. National Museum.

EXPLANATION OF PLATE XIX.

Fig. 1. Cross-section of a four-winged frost-work, generalized. Fig. 2. Side view of same, showing mode and position of attachment to stem. Fig. 3. Illustration of sinuous margin of some of the foils. Fig. 4. Side view of same, showing fluted or gathered appearance.

BRIEFER ARTICLES.

On two new or imperfectly known Myxomycetes.—WITH PLATE XX.—
Comatricha caespitosa n. sp. Pl. xx, figs. 1-4.—Sporangia densely crowded or caespitose, rising from a delicate hypothallus. Individual sporangia very shortly stipitate or sessile, clavate, 1-1.5^{mm} high. Sporangial wall grey, iridescent with blue tints, comparatively permanent but finally disappearing. Columella rising to two-thirds or three-fourths of the height of the sporangium, and giving rise throughout its length to the dense, blackish capillitium. Main branches of the capillitium thick at the point of origin, frequently anastomosing and becoming gradually thinner toward the surface of the sporangium; tips pointed, free, not attached to the wall of the sporangium, and forming no peripheral network. Spores globose, distinctly asperate, 9.6-12.8 μ in diameter, pale brownish-violet by transmitted light, blackish-violet in the mass.

On moss, and lichens of the genus *Cladonia*, Wood's Holl, Mass., August, 1892, *W. A. Setchell*.

This interesting species is characterized by its densely caespitose habit, more or less permanent sporangial wall, and large, asperate spores. The individual columellas sometimes exhibit marked variations from the type, variations which might be taken to indicate abnormal developments. On the whole, however, the principal characteristics of this *Comatricha* seem to be of definite specific value, if we

regard only those characteristics which are common to normal and fully-developed specimens.

PHYSARUM SULPHUREUM Alb. and Schw. Consp. Fung. p. 93. tab. 6. fig. 1.—Plate XX, figs. 5–8.

SYNONYMS.—*Physarum virescens* Fckl. non Ditm. *Physarum chrysotrichum* B. & C. *Physarum decipiens* Curt. *Badhamia decipiens* (Curt.) Berk. *Physarum inaequalis* Peck.

Sporangia scattered, stipitate or occasionally sub-sessile, spherical, 0.8–1^{mm} high. Wall granulated, bright golden-yellow. Stem, when present, one-half to two-thirds the height of the sporangium, blackish-brown. Hypothallus minute, thin, brown. *Columella absent*. Capillitium rather dense, composed of *large, angular nodes, completely filled with bright yellow granules of lime*, and connected by very short, delicate, colorless internodes destitute of lime. Spores globose, minutely verruculose or asperate, 10.7–11.8 μ in diameter, brownish-violet by transmitted light, black in the mass.

On bark of apple-trees, Manchester, Mass., August, 1889, *W. C. Sturgis*.

Our knowledge of this species is based upon the rather meager description and figures by Albertini and Schweinitz above referred to, and a scanty specimen preserved in the Schweinitz herbarium. There can be little doubt that the species described above is identical with that collected by Schweinitz as *Physarum sulphureum* A. and S., and it is fair to presume that Schweinitz had sufficient grounds for considering his American specimen to be identical with that found in Europe.

This species is interesting as exhibiting the close relationship existing between the two genera *Physarum* and *Badhamia*. Were it not for the few short, empty tubules which serve to connect the large nodes of the capillitium, the species would certainly be referable to *Badhamia*. The nature and brilliant color of the capillitium, and the absence of a columella, serve to separate it from the other yellow species of the genus *Physarum*.—*W. C. STURGIS, New Haven, Conn.*

EXPLANATION OF PLATE XX.—Figs. 1–4. *Comatricha caespitosa* n. sp.—Fig. 1. Habit $\times 10$. Fig. 2. Single sporangium with capillitium and part of wall. $\times 40$. Fig. 3. Portion of capillitium and columella. $\times 240$. Fig. 4. Spores. $\times 500$. Figs. 5–8. *Physarum sulphureum* A. and S.—Fig. 5. Habit, natural size. Fig. 6. Sporangia showing capillitium. $\times 50$. Fig. 7. Portion of capillitium and spores. $\times 240$. Fig. 8. Spores. $\times 500$.

On the vegetation of hot springs.—Accidentally, in looking over some notes that I made in 1889, I found a number of references to vegetation at a very high temperature. These caused, I remember, a good deal of sensation among my friends as well as in my own mind, and I should, indeed, not venture to place them in any journal, if not